

# TIMELINEZ

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JUNE 1985

\$1.00

THE JOINT NEWSLETTER OF THE THREE TIMEX-SINCLAIR  
USER GROUPS IN THE SAN FRANCISCO BAY AREA  
\*\* EBZUG PUG SVSTUG \*\*

H A P P Y B I R T H D A Y

TIMELINEZ IS NOW  
TWO YEARS OLD!

## \* NEWS RELEASE \*

SUNSET ELECTRONICS ANNOUNCES A  
NEW LINE OF EPROM CARTRIDGES FOR  
THE TS-2068:

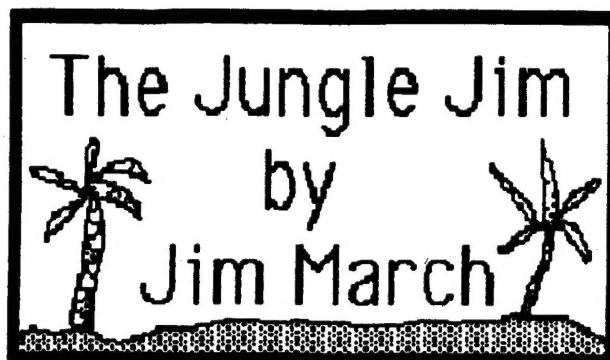
EPROM PROGRAMMER

BLANK EPROM CARTRIDGE

FOUR-SLOT EPROM EXPANSION BOARD

EPROMS OF ABOUT 30% OF CURRENT  
CASSETTE PROGRAMS

SHOULD BE AVAILABLE ABOUT JUNE 15.



Have you ever wanted to convert numbers from one base into another? In particular, computers tend to work in base 2 where numbers are represented as a series of 1's and 0's. Assembly language programs tend to deal with numbers in base 16 (hexadecimal, or HEX for short) where numbers are represented as a series of 0-9's, A's, B's, C's, D's, E's, and F's. And occasionally you find something in base 8 (octal) where only the digits 0-7 are used. I won't explain what the different bases are, nor why one might need them. However, for those of you that use the different number bases, here is a program to convert a number from onebase into another:

```
1 CLS
10 PRINT "IN BASE; ",
12 INPUT INBASE
14 PRINT INBASE
20 PRINT "NUM. (BASE "; INBASE; "
);
22 INPUT I$
24 PRINT I$
30 PRINT "OUT BASE; ",
32 INPUT OUTBASE
34 PRINT OUTBASE
40 GOSUB 1000
42 PRINT "NUM. (BASE "; OUTBASE; "
);
50 PAUSE 3E4
60 GOTO 1
```

(CONT. ON NEXT PAGE)

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```

1000 REM CHANGE I$ (BASE INBASE)
      INTO O$ (BASE OUTBASE)
1010 REM FIRST CHANGE I$ (BASE
      INBASE) INTO BASE 10
1012 LET ILEN=LEN I$
1014 LET D=0
1020 FOR I=1 TO ILEN
1030 LET D=D+((CODE I$)-28)*INB
      ASE*(ILEN-I))
1040 LET I$=I$(2 TO )
1050 NEXT I
1060 PRINT "NUM. (BASE 10):",D
1100 REM NOW CHANGE D (BASE 10)
      INTO O$ (BASE OUTBASE)
1102 LET O$=""
1110 FOR I=7 TO 0 STEP -1
1120 LET DIGIT=INT (D/(OUTBASE**
      I))
1130 LET O$=O$+CHR$ (28+DIGIT)
1140 LET D=D-(OUTBASE**I)*DIGIT
1150 NEXT I
1200 RETURN

```

Note that this program can only handle numbers which are not too large (the output number will only be 8 digits long). I also convert the input number into base 10 first so the output number is limited in accuracy to the accuracy of the T/S 1000. Don't worry, though. I tried numbers in base 10 larger than 1,000,000 and converted them into base 16 without any trouble!

Here's another fun program. I call this kind of program a "huh?" program. No explanation is given since the program is teaching you something about the machine as you try to figure out the program:

```

1 REM "HUH? WHAT"'S GOING ON
  ?"
2 POKE 16513,(245 AND PEEK 16
  513=234)+(234 AND PEEK 16513=245
  )
3 GOTO 4*(PEEK 16513=234)
4 PRINT "DON'T ASK ME"

```

Sections of this article are reprinted courtesy of The Book Company, Los Angeles, from the book The Timex/Sinclair User's Encyclopedia by G. Phillips and J. March, 1984.



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**UPDATED TOPICS:** With all the TS activity around everyone should be familiar with all the latest "goodies" entering the market for the TS2068, i.e. the Spectrum Rom issue (Romsmith, Emulators and Rom replacement) which is still unsettled due to the number of Spectrum programs which either will not load or will not run properly. For example, I cannot load Hisoft C and I cannot run Airwolf after it is loaded (and this is with 10k pullup resistors on data lines D0, D1, D3, D4, D5, D6, D7 to Vcc). There is also the matter of running Spectrum hardware, which at the moment only runs using the Emu Emulators (which fit into the cartridge port). More on this subject further on in this article.

Another interesting topic concerns mass storage, either by Sinclair Microdrive or by the new Rotronics Wafadrive. The U.S. prices for each is (reasonably) comparable to the U.K. prices (well, almost). One new company that is REALLY holding their prices down is THE ENGLISH MICRO CONNECTION, 15 Kilburn Court, Newport, Rhode Island 02840, U.S.A., telephone 401-849-3805. EMC is an agent for several U.K. hardware companies. This means EMC takes your order and the item is shipped directly from the U.K. to you. This is a good idea if you do not know what item is available and where it can be purchased. I will be giving a copy of their catalogue to our Library for members to peruse. EMC does carry Spectrum software in stock, at almost U.K. prices. I talked at some length with Bob Dyl of EMC and this man is a fountain of information regarding the U.K. market. He will be carrying the Timex Portugal T2068 for \$159.95 and the Timex Disc Drives upon their release in the U.S. in June. The price is \$239.95 for the first drive with interface and \$125.00 for the second drive. He is presently taking orders. There is also a hardware item available which converts both the TS2068 configuration and voltages to the Spectrum specification. The simple way to perform this yourself is to look in the last issue of SINC-LINK (second last page) at the drawings for all three edge connectors. From this you can see the wiring required and also where to install the two regulators (9 and 12 volt) fed from the 15v on the TS2068 bus. The commercial item available from EMC is a "Microdrive Interface" which is supposed to run in conjunction with the Romswitch. This means that all of us with the Romswitch will not have to buy an Emulator!

**TS2068:** There is really a lot either happening now or about to happen. An interesting example of a new product is the ZEBRA SYSTEMS KOALA PAD. This is a reasonably sophisticated method of transferring patterns/artwork to either a printer (32 or 80 column) or to memory. Once I get the hang of both the Koala and the TECH DRAW software I will give a demo at one of our 2068 nights. While on the subject of ARTWORKX, I must say that one of the BEST programs on graphics, that I have seen, was demo'd at our April 17 meeting by the author, David Ridge. This program will be carried by RAMEX and retailed at \$19.95 U.S. for the TS2068. The Spectrum version is forthcoming. It has several features that TECH DRAW does not have and lets you perform all this using a joystick. HIGHLY RECOMMENDED!! RAY KINGSLEY has his new Exrom out. This version will be of more use once we have the

ability to bank switch and our 2068 becomes our TS2192. Ray Kingsley can be contacted at SINWARE P.O. Box 8032, Santa Fe, NM 87504. The price for the Exrom is \$16.00 (US). This ROM (eprom) can be installed without either soldering or altering your TS2068. He also says that he is working on a true 64 column screen for the TS2068/TS2192.

**TS1000:** Long live the TS1000/ZX81! It appears that some people believe this, as the market is not quite dead yet. A couple of interesting items are available. Tom Bent, editor of SinWare News has a version of the ROM available from Thomas B. Woods. This version corrects the LPRINT and the DIVIDE bugs, the SCROLL command and even makes the Q, V, V and K easy to read. It installs without modifying your ZX81/TS1000. The two of us that have and use this item are pleased with it and we are even used to the computer initializing in the FAST mode. There is a new piece of software for the ZX81 and what a piece it is! It is called SINC-ARTIST 1.3 and is by CALLISTO SOFTWARE 924 2nd St. East, Saskatoon, Sask. S7N 1R1. HIGHLY RECOMMENDED!! Ian Singer will be carrying it (INTEGRATED DATA SYSTEMS, 30 BROOKMOUNT ROAD TORONTO M4L 3W1, 416-699-6380). I also see references to a MTERN II software program for the TS2050 Modem. If this is true it should encourage those that would like a Modem, but are resisting buying a TS2068 just to access a smart modem. I happen to like the TS1000/TS2050 combination, I even have MTERN on eprom for fast loading. Both MODEMS are available from IDS.

**SPECTRUM:** Anyone that is using BETA BASIC 1.8 and would like the clock function to keep North American 60 hz time can simple Poke 56866,60 (the tics per second address). Brian Hammond has talked me into using the clock/alarm function to control timings (computer and social) while working at the keyboard. And guess what - it works! Brian says "if you have a computer and the software, why not get into the habit of using them". Thank you Brian. Print and Plotter have a revised version of Paintbox out, it is called PAINT PLUS and includes 24 new commands. It will have to be good to watch ATRVORKX! How would you like to have a Spectrum Plus? According to Bob Dyl several members of the Ocean City Users Group are running Spectrums. This is done by using a ZX81 9v 1 amp. power supply and changing to the Spectrum connector. It runs on channel 36. The Spectrum Plus has a 58 key keyboard with lots of single entry capability. At the moment I'm thinking about getting one and quite possibly either the Sinclair Microdrives or a disc system and would appreciate any comments.

**ED. NOTE:** This article was sent to us by Ian Robertson along with his check for membership in our group. Ian is also a member of the Toronto T/S Users Group and the article originally appeared in that groups SINC-LINK N/L. To contact Ian:

Ian F. Robertson  
26 Abilene Drive  
Islington, Ont.  
M9A 2M8 CANADA

416 233-6765

## A HEARING AID FOR 2068 EAR

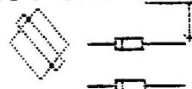
Inside the 2068 there are two diodes (cr25, cr26) used in the earphone circuit for voltage limiting. A diode starts conducting with a voltage drop of about .7V and peaks off about 1V. Two diodes will give you 1.4-2V. A logic 1 voltage level is about 2-5V. Adding a third diode brings the voltage to 2.1-3V, improving logic level of the computer earphone circuit.

You can now load a program at a lower volume setting, and a higher setting makes it easy to load weak tapes, heavily used tapes.

diodes=1N914 OR 1N4148

cr25, cr26 are located near the back left side of the circuit board.

Heat and lift lead out of hole



Trim new diod lead to go in hole, being carefull not to hit casing under board. Now bend other lead connecting it to original diod lead as shown.

Use a little solder while soldering.



## THE JOYSTICK OF SKETCHING

1 REM THIS PROGRAM LETS THE LEFT JOYSTICK WORK AS A DRAWING STICK, HOLDING THE PUSHBUTTON PUTS INK ON THE PAPER, OTHERWISE IT ERASES INK.

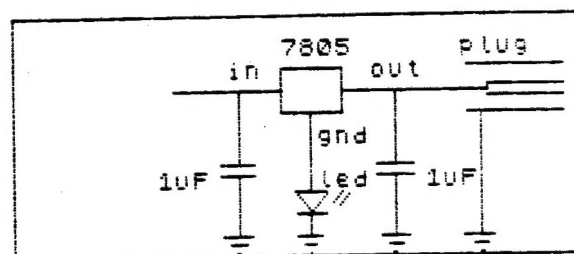
```

5 LET x=0: LET y=0
10 LET s= STICK (1,1): LET b=
  STICK (2,1)
30 IF s=1 OR s=5 OR s=9 THEN L
  ET y=y+1
40 IF s=2 OR s=6 OR s=10 THEN
  LET y=y-1
50 IF s=8 OR s=9 OR s=10 THEN
  LET x=x+1
60 IF s=4 OR s=5 OR s=6 THEN L
  ET x=x-1
70 IF y>175 THEN LET y=175
80 IF y<0 THEN LET y=0
90 IF x>255 THEN LET x=255
100 IF x<0 THEN LET x=0
105 INVERSE b: PLOT x,y
110 LET b=ABS (b-1)
115 PAUSE 3
120 INVERSE b: PLOT x,y
130 GO TO 10
  
```

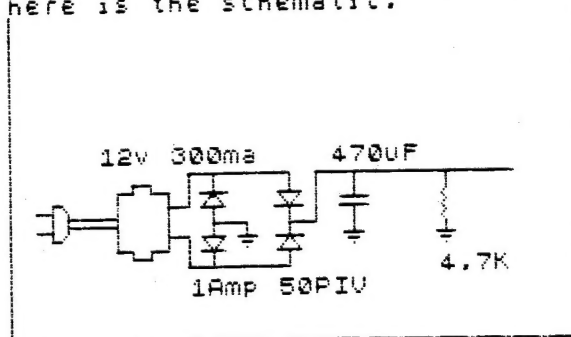
## RID 2020 RECORDER OF AC RIPPLE

The DC power supply for the 2020 cassette recorder has too much AC ripple for a good recording, so we need a regulated power supply.

Inside the 2020 cassette recorder there's a polarity protection diode that will drop an external voltage supply 0.8-1.0 volt. So we need a regulated power supply of 6.8-7.0 volts. The easiest IC regulator we can get is a 5 volt 7805. Now we need to raise it to 6.8-7.0 volts, by use of an LED (with a forward voltage drop of 1.8-2) between the IC ground pin and ground. The LED serves as an on indicator light as well.



You will need a DC power supply of at least 9V. at 300ma, a ZX81 or TM1000 power supply will work fine. If you need (or want) to make your own power supply, here is the schematic.



All parts are available from RADIO SHACK. Be careful when working inside the computer.

For information or help contact, Rex Lundgren, 2632 Sutter St., San Francisco, CA. 94115 or phone (415) 922-0424 (msg) 922-0420

The file labeled "@1" is the next one you may SAVE to



## New Computer Repair Center

FROM THE SUM N/L IN GAINSVILLE, FL.

Timex computer's Little Rock repair center has turned over all operations to TS Connection at 3832 Watterson, Cincinnati, OH 45227 (513) 271-5575 8am to 10pm EST. Jack Roberts says repair charges are running \$15-\$20 for 1000's and \$35 to \$40 for 2068's. They also carry all Timex products for sale at competitive prices.

FROM THE T/S USERS  
GROUP IN CINCINNATI.

If you have ordered a 2068 Technical Manual from Little Rock, and have not received it, please contact us:

by phone, 513 271 5575,

by mail, 3832 Watterson Ave.  
Cincinnati, Oh. 45227

by MCI, Jack Roberts MCI 230 8034

by BBS, Coconut 513 984 8705

or by Compuserve,

Jack Roberts, 75036, 136

Please include name, address, and check number.

We will run it down for you!!!!

If you are ready to buy one of the manuals, we have them in stock. And, we will ship, same day.

.....\$25.00

plus \$1.50 UPS.

FROM THE ZX/TS FORUM  
N/L OF SOUTH FLORIDA.

```
1 PRINT "SIMPLE AERCO PATCH
**"
2 PRINT "COPIES BUFFER TO
**"
3 PRINT "FULL SIZED PRINTER
**"
4 PRINT "THANKS TO SOURCE
**"
5 PRINT "TIMEX SIG: TYPE
**"
6 PRINT "PARTI READ 84.1726
4**"
10 POKE 26703,5: POKE 26704,25
1: POKE 64255,1: POKE 64259,79
12 PAUSE 150
14 CLS: PRINT AT 10,0;"PUT IN
CUSTOMIZED "PCODE""
15 LOAD "PCODE"CODE 64256,111
1
20 LET n=27155
25 LPRINT CHR$(PEEK n): LET
n=n+1: GO TO 25
30 STOP
```

FROM THE SINC-LINK N/L  
IN TORONTO, CANADA.

## USE OF THE 'IN' FUNCTION By G F Chambers

It is sometimes desirable to be able to use two keys at the same time. Many games could be improved with this capability. On the TS2068 this is possible through the use of the 'IN' function. The following Table A, and Etch-a-Sketch demonstration program will illustrate this possibility.

TABLE A  
\*\*\*\*\*

<-----IN values----->					
IN	30	29	27	23	15
=====	==	==	==	==	==
32766	BR	SH	M	N	B
49150	ENTER	L	K	J	H
57342	P	O	I	U	Y
61438	0	9	8	7	6
63486	1	2	3	4	5
64510	Q	W	E	R	T
65022	A	S	D	F	G
65278	-	Z	X	C	V

```
5 REM An ETCH-a-SKETCH type
of drawing routine to
illustrate the use of
the IN function on
the TS2068 computer.
6 REM
7 REM By G F Chambers
8 REM
9 REM Use keys Q,W,E,R and O
for cursor control.
Use keys 1-5 for
choice of color.
10 LET x=125: LET y=95
20 IF IN 64510=30 AND y<172 TH
EN LET y=y+1
30 IF IN 65022=30 AND y>1 THEN
LET y=y-1
40 IF IN 57342=30 AND x<254 TH
EN LET x=x+1
50 IF IN 57342=29 AND x>1 THEN
LET x=x-1
55 IF IN 63486<>31 THEN GO SUB
130: GO TO 20
60 PLOT x,y
120 GO TO 20
130 LET r=0: LET c=32-IN 63486
140 LET c=c/2: LET r=r+1: IF c<
=1 THEN GO TO 160
150 GO TO 140
160 IF INKEY$<>" " THEN GO TO 16
0
170 INK r: RETURN
```

## COMPUTER CALENDAR

### J U N E -----

- 8th and 9th  
Computer Supermarket  
San Mateo County Fairgrounds  
(415) 340-9113
- 16 Peninsula User Group  
George Mockridge  
(415) 359-3198 1 p.m.
- 22 Computer Swap America  
Santa Clara County Fairgrounds  
(415) 366-9162
- 24 Silicon Valley ST User Group  
Bill Miller  
(408) 253-3175  
Cupertino Library  
10400 Torre Ave. 7 p.m.
- 27 East Bay Z80 User Group  
Rick Link  
(415) 234-3310 eve  
Macintosh Night 7:30 p.m.

### J U L Y -----

- 21 Peninsula User Group 1 p.m.
- 25 East Bay Z80 User Group 7:30 p.m.
- 30 Silicon Valley ST User Group  
Cupertino Library 7 p.m.
- 31 Silicon Valley ST User Group  
Great Western Savings  
10250 S. De Anza Blvd.  
Cupertino  
Workshop 7 p.m.

TIMES AND LOCATIONS MAY DIFFER, PLEASE CALL FIRST.

MAPS SENT TO NEW AND INQUIRING MEMBERS.

**E B Z U G** EAST BAY Z80 USER GROUP  
654 40TH STREET  
RICHMOND, CALIFORNIA 94805  
(415) 234-3310

PRESIDENT: RICK LINK

MEETINGS: FOURTH THURSDAY OF EACH MONTH, 7:30 P.M.  
WEST BRANCH LIBRARY  
1125 UNIVERSITY AVENUE (NEAR SAN PABLO AVENUE)  
BERKELEY

MAKE CHECK FOR DUES PAYABLE TO "WOODY MCPHEETERS".

**P U G** PENINSULA USER GROUP  
263 GATEWAY, NO. 107  
PACIFICA, CALIFORNIA 94044  
(415) 359-3198

PRESIDENT: GEORGE MOCKRIDGE

MEETINGS: THIRD SUNDAY OF EACH MONTH, 1:00 P.M.  
PENINSULA HOSPITAL  
1783 EL CAMINO REAL  
BURLINGAME

MAKE CHECK FOR DUES PAYABLE TO "GEORGE MOCKRIDGE".

**S V S T U G** SILICON VALLEY SINCLAIR TECHNOLOGY USER GROUP  
6675 CLIFFORD DRIVE  
CUPERTINO, CALIFORNIA 95014  
(408) 253-3175

PRESIDENT: RITA CARR, (408) 738-2888, X-4579

MEETINGS: NO REGULAR TIME OR PLACE FOR MEETINGS.  
SEE COMPUTER CALENDAR FOR MEETING INFORMATION  
OR CALL (408) 253-3175.

MAKE CHECK FOR DUES PAYABLE TO "SINCLINK".

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NEW MEMBERS AND VISITORS ARE ALWAYS WELCOME.

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## LINK REPORTS

EAST BAY MESSAGE COLUMN

Rick Link

EBZUG is very much alive and kicking in the East Bay with some leadership changes and special projects at meetings.

Joel Brody has finally admitted that fatherhood comes before his computer and has passed the EBZUG presidency to Rick Link. Mike Minutoli is the TS 1000 librarian, John Ezike is the Text Librarian, and Woody Mcpheeters is the Name Brand C15 tape source (61).

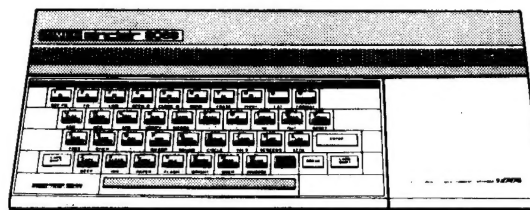
The May 23rd meeting was the first in a series of special project meetings in the East Bay. Our first project involved lengthening the rather short cable on the Timex 2040 printer. We did not use a new procedure but presented hardware novices a chance to be guided through the process. I was one of the brave souls to perform surgery on my 2040 and would like to share a few hints and suggestions:

1. Draw accurate records of existing cable connections and colors.
2. DESOLDER CAREFULLY! This was a problem I had requiring the reconstruction of two traces on the circuit boards.
3. Besides a soldering station it helped to have tweezers, desoldering braid, exacto knife with a sharp blade, and patience.

We used surplus shielded cable picked up at \$2.00 a pound with more leads than necessary - only 7 leads and a ground are needed. Replace same color leads if possible, otherwise map the color substitutions carefully before you start. The East Bay experts if you need help are Mike M. and Wayne. We plan to continue this project adding a power LED and power cut-off switch. Follow the calendar for the next project date.

### ANOTHER SPECTRUM EPROM BOARD?

You had better believe it! Bob Orfelt's Eprom reader board can also be alot more than just a quality Spectrum Emulator. The same board can be configured as an Eprom burner using the 2040 power supply to burn Eproms; it can also be set up as a CMOS battery backed board. One of the nicest features for advanced programmers is the on-off switch and software accessibility that allows you to enter Spectrum mode from 2048 mode without turning the power off. Bob has demonstrated the flexibility of his Eprom approach by "correcting" some of the ROM's flaws and adding an alternative character set in his version of the Spectrum ROM. Bob also has a word processor Eprom available among others. Future products available for Bob's board include an expansion board with room for 4 Eproms being produced by a group member from PUG. Bob regularly attends Peninsula meetings and brings a supply of board kits, ready made boards, and a few eprom burner set-ups. Sunset Electronics has a selection available ranging in price from \$10 for a bare board to \$100 for Deluxe Eprom Programmer. Details are listed on page 21 of Sunset's latest catalog under GESSO PRODUCTS - cartridges for the TS 2048. Bob is interested in all applications of his board and is looking forward to hearing about such.



TIMEX PRINTER 2040

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